

AUG 14 2003

K032284

## SECTION 17: SUMMARY OF SAFETY AND EFFECTIVENESS

This 510(k) summary of safety and effectiveness information is being submitted in accordance with the requirements of SMDA 1990 and CFR 807.92.

### 17.1 SUBMITTER INFORMATION

- a. Company Name: FRIADENT GmbH.
- b. Company Address: Steinzeugstrasse 50  
Mannheim D-68229  
Germany
- c. Company Phone: (011) 49 621 43 02 1121  
Company Facsimile: (011) 49 621 43 02 2121
- d. Contact Person: Heike Dietzler  
Regulatory Affairs Manager
- e. Date Summary Prepared: July 22, 2003

### 17.2. DEVICE IDENTIFICATION

- a. Trade/Proprietary Name: XiVE® TG Dental Implant System
- b. Classification Name: Endosseous Dental Implants  
21 CFR 872.3640

### 17.3 IDENTIFICATION OF PREDICATE DEVICES

<u>Company</u>	<u>Device</u>	<u>510(k) No.</u>	<u>Date Cleared</u>
FRIADENT GmbH	XiVE® Transgingival Dental Implant System	K024004	03/03/2003

#### **17.4 DEVICE DESCRIPTION**

The XiVE® TG Dental Implant System consists of transgingival threaded dental implants in 3.4 -4.5mm diameters with 8 – 18mm lengths. The implants are coated with the FRIADENT Surface M2.1. The XiVE® TG Dental Implant System is comprised of dental implants, surgical and laboratory instruments and prosthetic components. The system is designed for single stage procedures for splinted crowns, bridges and complete dentures. In the edentulous mandible, the XiVE® TG transgingival dental implants are indicated for immediate loading procedures using the standard protocol.

#### **17.5 SUBSTANTIAL EQUIVALENCE**

The XiVE® TG transgingival dental implants with the FRIADENT Surface M2.1 are substantially equivalent to the current XiVE® TG Dental Implant Systems in terms of design, materials, mechanical strength, prosthetic and laboratory options and intended use. The purpose of this submission is to apply the new FRIADENT Surface M2.1 to the endosseous implants.

#### **17.6 INTENDED USE**

The XiVE® TG Dental Implant System is indicated for single-stage implant placement, with a minimum healing phase of three months in good quality bone and four months in spongy bone, for maxillary and mandibular splinted crowns, bridges and bar-retained overdenture restorations. The bridge must be supported by a minimum of two transgingival threaded implants. In the edentulous maxilla, a minimum of four transgingival implants are placed in a trapezoidal distribution and rigidly splinted together. In the edentulous mandible, a minimum of four XiVE® TG transgingival dental implants ( $\geq 9.5$ mm length) are placed between the mental foramina and rigidly splinted together. In this case, bar prosthetic loading is possible immediately after implant placement.

## **17.7 TECHNOLOGICAL CHARACTERISTICS**

The XiVE® TG transgingival dental implant is available in 3.4, 3.8, and 4.5mm screw-type implants with the FRIADENT Surface M2.1. The lengths of the implants range from 8 – 18mm. The XiVE® TG transgingival dental implants are constructed of CP-2 titanium. A variety of prosthetic options are available for the XiVE® TG system including, AuroBase, PassivFit, Gold Copings, Ball and Socket Attachments, Bar / Clip, and Select Abutments.

The XiVE® TG transgingival dental implants with the FRIADENT Surface M2.1 is equivalent to the current XiVE® TG Dental Implant System in terms of design, materials, mechanical strength, prosthetic options, instructions for use and intended use. The only difference is the change in the surface morphology of the dental implant to the FRIADENT Surface M2.1.

## **17.8 CLASS III CERTIFICATION AND SUMMARY**

This notification contains a Class III certification and summary of adverse safety and effectiveness information pursuant to 513(f) of the Federal Food, Drug, and Cosmetic Act.

## **17.9 CONCLUSIONS**

This notification contains all information required by 21 CFR 807.87. A completed copy of the Premarket Notification 510(k) Reviewer's Checklist is provided in this submission. Performance evaluations of the XiVE® TG dental implant system show that the device performs as intended. Comparison of the XiVE® TG dental implant system to the predicate devices show that the device is substantially equivalent. The complete surface characterization of the new FRIADENT Surface M2.1 has been detailed in a Device Master File.



AUG 14 2003

Food and Drug Administration  
9200 Corporate Boulevard  
Rockville MD 20850

FRIADENT GmbH  
C/O Ms. Carol Patterson  
Patterson Consulting Group, Incorporated  
21911 Erie Lane  
Lake Forest, California 92630

Re: K032284  
Trade/Device Name: XiVE® TG Dental Implant System  
Regulation Number: 872.3640  
Regulation Name: Endosseous Implant  
Regulatory Class: III  
Product Code: DZE  
Dated: July 22, 2003  
Received: July 24, 2003

Dear Ms. Patterson:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to such additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21

CFR Part 807); labeling (21 CFR Part 801); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

This letter will allow you to begin marketing your device as described in your Section 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please contact the Office of Compliance at (301) 594-4613. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21 CFR Part 807.97). You may obtain other general information on your responsibilities under the Act from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (301) 443-6597 or at its Internet address <http://www.fda.gov/cdrh/dsma/dsmamain.html>

Sincerely yours,



Susan Runner, DDS, MA  
Interim Director  
Division of Anesthesiology, General Hospital,  
Infection Control and Dental Devices  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

Enclosure

## INDICATION FOR USE

510(k) Number:

Device Name: XiVE® TG Dental Implant System

Indications for Use: The XiVE® TG Dental Implant System is indicated for single-stage implant placement, with a minimum healing phase of three months in good quality bone and four months in spongy bone, for maxillary and mandibular spinted crowns, bridges and bar-retained overdenture restorations. The bridge must be supported by a minimum of two transgingival threaded implants.

In the edentulous maxilla, a minimum of four transgingival implants are placed in a trapezoidal distribution and rigidly splinted together.

In the edentulous mandible, a minimum of four transgingival implants ( $\geq 9.5$ mm length) are placed between the mental foramina and rigidly splinted together. In this case, bar prosthetic loading is possible immediately after implant placement.

(PLEASE DO NOT WRITE BELOW THIS LINE - CONTINUE ON ANOTHER PAGE IF NEEDED)

Concurrence of CDRH, Office of Device Evaluation (ODE)

Ker Mulvey for MSR  
(Division Sign-Off)  
Division of Anesthesiology, General Hospital,  
Infection Control, Dental Devices

Prescription Use ☒ 510(k) Number: K 032284 OR Over-The-Counter Use ☐  
(Per 21 CFR 801.109)

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